3 Lecture - CS302

Important Mcqs

1. Which of the following is a characteristic of floating-point numbers?

- A. They can only represent integers
- B. They have limited precision
- C. They cannot represent negative numbers
- D. They are only used in scientific applications

Answer: B

2. What is the significand of a floating-point number?

- A. The scale of the number
- B. The precision of the number
- C. The number of digits in the number
- D. The exponent of the number

Answer: B

3. Which of the following is an example of a floating-point number?

A. 10

B. 3.14159

C. 1000

D. 1/3

Answer: B

4. What is the exponent of a floating-point number?

- A. The scale of the number
- B. The precision of the number
- C. The number of digits in the number
- D. The power of 2 used to scale the number

Answer: D

5. Which of the following is true about the precision of floating-point numbers?

- A. It is fixed for all floating-point numbers
- B. It varies depending on the magnitude of the number
- C. It is always greater than the number of bits used to represent the number
- D. It is not relevant to the representation of floating-point numbers

Answer: B

6. What is the largest value that can be represented by a 32-bit floating-point number?

- A. 10³⁸
- B. 10³⁰⁸
- C. 3.4028235 x 10³⁸
- D. 1.7976931348623157 x 10³08

Answer: C

7. What is the smallest value that can be represented by a 64-bit floating-point number?

A. 10^-308

- B. 10^-38
- C. 1.7976931348623157 x 10^-308
- D. 3.4028235 × 10^-38

Answer: C

8. Which of the following is a potential issue with using floating-point numbers?

- A. They cannot represent negative numbers
- B. They have limited precision and can result in rounding errors
- C. They are too complex to use in programming
- D. They are not supported by modern computer hardware

Answer: B

9. What is the IEEE 754 standard?

- A. A standard for representing binary numbers in decimal form
- B. A standard for representing floating-point numbers in computer systems
- C. A standard for representing integers in floating-point form
- D. A standard for representing rational numbers in binary form

Answer: B

10. Which of the following is an advantage of using floating-point numbers?

- A. They are easy to represent and manipulate in computer systems
- B. They can represent a wide range of numbers with high precision
- C. They can only be used for scientific applications
- D. They are not affected by rounding errors or precision issues

Answer: B